

## NASA Decommissions Reactor Facility

### A model project in risk management

After 13 years of collaboration among NASA, its contractors and the Sandusky community, the decommissioning of NASA Glenn's Plum Brook Reactor Facility (PBRF) is complete. As of October 2012, the Nuclear Regulatory Commission (NRC) declared the 27-acre site that housed the former PBRF to be clean and available for unrestricted use.

Constructed between 1958 and 1961, the facility originally was intended to support nuclear propulsion development for aircraft, but was ultimately used for the nuclear rocket programs, ROVER and NERVA. It consisted of two NRC-licensed research reactors—a 60-MW main reactor and 100-kw swimming

pool reactor as a mock-up of the main reactor—which were connected to a series of seven hot cells via a 25-foot-deep water-filled canal system.

From 1963 to 1973, the PBRF enabled NASA to perform some of the nation's most advanced nuclear research, analyzing the behavior of metals and other materials after long durations of exposure to radiation. The research conducted during this era benefited nuclear reactor design and nuclear power systems development that is still of value today.

PBRF operations came to a halt with the end of the Apollo program, followed by the termination of the nuclear rocket program in favor of funding the new space shuttle program. The reactor was shut down, all fuel was removed from the site, and the remaining plant was placed in a safe, dry storage condition until 2002 when the NRC approved the decommissioning plan that was initiated in 1999.

Sponsored by the NASA Office of Strategic Infrastructure in Washington, DC, and managed and executed by NASA Glenn, the decommissioning project

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*Pictured: The Reactor Control Room where experiments were inserted through the hole of a platform into the water reservoirs of the nuclear reactor core.*



C-2003-827

## New Center Director Named

NASA Administrator Charles Bolden has named James M. Free the next director of NASA Glenn. He will succeed Ramon "Ray" Lugo III, who will retire in January after leading Glenn since July 2010. Free has been Glenn's deputy director since January 2011.



Free

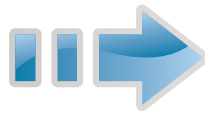
Free began his career in 1990 at NASA's Goddard as a propulsion engineer and later as a systems engineer on NASA's Tracking and Data Relay Satellites. He joined Glenn in 1999 as the International Space Station liaison for the Fluids and Combustion Facility. His other NASA assignments have included director of Space Flight Systems at Glenn, Orion Service Module manager at Glenn and chief of the center's Orion Project Office. He also worked at NASA's Johnson as the Orion Test and Verification manager.

### HAPPY HOLIDAYS!



### In This Issue

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Center Director Lugo

## An Honor Beyond Words

This is my last column in *Aerospace Frontiers*. Starting out, I need to thank the people that take what I write and make it readable. After I put my thoughts on paper, I get a little help from the editorial team to make this column happen. Honestly, it's a good thing people have not had to read everything I have written.

I have maintained a column in *Aerospace Frontiers*, written posts in my blog and held regular all hands meetings for one reason: to improve the interaction between management and employees at GRC. I want to focus on one word in that last sentence, which is improve.

Truth be told, I suffer from a need to be the best. It comes from my competitive side, makes me who I am and drives me to do the things I do. I honestly believe I am a better employee, a better leader, and most importantly, a better human being today than I was when I arrived here five years ago, due in part to my need to be the best. Serving as the deputy director and director has enabled me to address the challenges associated with both jobs, which in turn has transformed me as a person and made me better.

I did not expect to be in Cleveland in December 2012, and I also did not expect to be the director when I arrived in October 2007. I did not fully appreciate how different a research center could be from a human spaceflight center. I did not appreciate how much I would be drawn to the work we do in the nooks and crannies of the center. I did not think I would be so connected to people that work

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**"I challenge you to change, examine yourself, evolve and get better."**

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hard everyday to do "perfect" work. I have only recently come to appreciate how GRC has "assimilated" me in a very profound way.

I did not like the time from the first to the last snowfall, the potholes that can consume a Mini Cooper, and some other things during my time here. But I have never lived, nor do I expect to live, in utopia. Overall, my time here has been an incredible experience and life changing. I will never forget these past 5 years and you will always have a special place in my heart.

Before I leave, I have one request: I challenge you to change, examine yourself, evolve and get better. It's not easy, it's not fun, but it's not an option, either. I believe that Glenn needs to re-establish itself and its place in NASA and the community. It is possible and can happen, if you make it happen. Change won't come quickly and you may have doubts. But if the effort and dedication is there, I am confident it will happen. Please, make it happen, because it's your destiny to do so.

Recently I learned that when a feeling is visceral and is difficult to describe in words, it comes from the brain stem. While this part of the brain is needed to keep us alive, it also is the source of all true feelings. Thanks is simply an inadequate word, but for right now, it is all I can say. Thank you for what you have done for me as your director, for putting me on the journey I am on today, and for what you do for NASA and your community. It has been an honor beyond words.

## New and Improved Monthly Forum Debuts

A capacity crowd filled the Briefing Center Auditorium on Oct. 24 to learn "What's New in New Business" at NASA Glenn during the premier of GRC CONNECTIONS. The speakers—Deputy Director Jim Free and Office of Technology Partnerships and Planning staff Joe Shaw and Harvey Schabes—discussed the center's accomplishments in new business pursuits over the past year as well as future plans.

The presentation was the debut of the new and improved Monthly Forum, now known as GRC CONNECTIONS. The forum features 45-minute sessions each month that showcase one topic and include a facilitated question and answer session with the audience.

"After talking with a cross-section of people throughout the center, we learned employees prefer the content of the forums to vary (technical and non-technical), reflect the work at



the center, and not exclude parts of the center population," Schabes explained. "So even topics technical in nature will be facilitated in a way that will appeal to people across the center."

A few areas to be explored in future forums include: directorates' proudest accomplishments, what to tell your neighbors about Glenn's technologies and role in the latest moon and Mars missions. Information on future forum topics and dates will be posted on *Today@Glenn*.

Members of the Office of Technology Partnerships and Planning—beginning with Director Dr. Howard Ross—want GRC CONNECTIONS to be a resource for employees to learn more about the center and to take pride in its accomplishments. If you have any comments or questions, please contact Ross or Schabes with feedback. See you at the next GRC CONNECTIONS!



# Plum Brook Reactor: Then and Now



*Pictured, left: Engineers used manipulator arms to examine materials behind the protective walls and windows of the Hot Cell Lab. Above: a worker pauses at the walls during a phase of demolition.*

Continued from page 1

was tasked to safely remove and dispose of all radioactively contaminated and activated material from the site, while transforming it to a greenfield with all structures demolished to 3 feet below grade. To terminate the NRC licenses, the site needed to demonstrate that it had been cleaned to a point where someone living an agrarian lifestyle would not be threatened.

Former PBRF Decommissioning Manager Keith Peacock said more than 700 people worked on the site over the course of the project.

"Everyone was tasked to perform his or her work in a way that protected the safety of the public, environment and their co-workers," Peacock explained. "I am most proud that during the decade-long project, only two minor lost-time

incidents occurred, and no impact on the public or environment."

Peacock affirmed that a proactive public relations plan was critical to ensuring the public was informed and involved throughout the process. Sally Harrington, a public affairs specialist in Glenn's Community and Media Relations Office, collaborated with Focus Group Consulting, Medford, Mass., through various methods of communications to the local community.

"We formed a community workgroup—consisting of community members, educators and safety and health officials and representatives from environmental groups," Harrington explained. "The group successfully served as liaisons between NASA and



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*Pictured, left (inset): Photo in the latter stages of leveling the reactor during demolition, and, now as a greenfield suitable for reuse.*

## PBRF Milestones

**1955** – Congress approves reactor request; the Atomic Energy Commission Safeguard Committee approves the design.

**1956** – A groundbreaking was held for the reactor on acreage annexed from the Army's Plum Brook Ordnance Works.

**1961** – The PBRF reactor becomes operational.

**1963** – The reactor achieves full power to begin conducting four basic types of experiments: nuclear rocket experiments, energy conversion experiments, basic radiation effect studies and physics experiments.

**1970** – NASA adds a cryogenic test facility to the reactor to study the behavior of materials that were subjected to the cold temperatures of space and exposed to radiation.

**1973** – The reactor is shut down following cancellation of the NERVA (Nuclear Engine for Rocket Vehicle Applications).

**1999** – NASA submits a decommissioning plan to the Nuclear Regulatory Committee (NRC).

**2002** – NASA begins to fully decommission the reactor upon NRC's approval.

**2012** – The decommissioning is completed. NRC declared the reactor facility a clean site for reuse.



*Pictured: An overhead view of the former reactor facility.*

## Strazisar Served NASA, Technical Community

Dr. Anthony “Tony” Strazisar, who retired as NASA Glenn’s Chief Scientist on Oct. 3 with 36 years of research and management experience, never had a career plan.

“I just worked hard and gave it my best shot everyday,” he said.

That “best” included more than 30 years in the field of turbomachinery aerodynamics research and advanced measurement techniques, 30-plus published technical papers, senior technologist status, leadership positions in NASA’s Fundamental Aeronautics Program, numerous awards and commendations, and key positions in the American Society of Mechanical Engineers (ASME)—where he held leadership roles on the International Gas Turbine Institute Board of Directors.

Strazisar joined the Glenn (Lewis) staff in 1976 after earning advanced degrees from Case Western Reserve University. Through the years, he participated in and/or led numerous research teams. He was elevated to senior technologist status in 1991 and named chief scientist in 2003.

In 2008, NASA Headquarters called upon Strazisar to serve a detail in the Aeronautics Research Mission Directorate. That experience expanded Strazisar’s scope of expertise and enabled him to have input into aeronautics policy at the national level. While there he also served as the senior technical advisor for the Aeronautics Research Mission Directorate. He maintained that role when he returned to Glenn in 2009.

Collaborating with others on research has been an important and fulfilling aspect of Strazisar’s career, he said. Strazisar has enjoyed collaborating with students working to earn advanced degrees as well. “It’s especially gratifying when a student you’ve mentored joins the NASA family,” he said.

Looking back on his career, Strazisar still recalls the first day he drove

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**“Success is a journey, not a destination,”**

**Dr. Tony Strazisar**

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through the NASA gate. “With two other job offers in hand, I wondered if I was doing the right thing going into public service or if I should have taken a position with private industry,” he explained. “It turned out to be one of the best decisions of my life. Here, I was able to support both industry and academia research by maintaining a ‘neutral’ position with the government.”

While Strazisar has stepped aside to clear the path of opportunity for others to expand their careers in public service, he will continue to share his expertise as a Distinguished Research Associate. He is currently serving as advisor to a research team at the center.



C-2012-5402

Photo by Michelle Murphy

*Center Director Ray Lugo congratulates Dr. Strazisar at his retirement gathering.*

“I’ve always believed that success is a journey, not a destination,” he said. “If you work hard every day, success and rewards will come your way.”

—By Doreen B. Zudell

## Glenn's Resident Astronaut "Box" Johnson Completes External Programs Detail

An astronaut can offer a distinct perspective on science and engineering that no one else can. Over the past 13½ months, Gregory “Box” Johnson, who has piloted two space shuttle missions, led the center’s outreach and education efforts while detailed as NASA Glenn’s Associate Director of External Programs, Center Operations Directorate.

Under Johnson’s direction, members of the Community and Media Relations and Educational Programs Offices successfully planned and executed several outreach events centered on key science and mission milestones. Some of the most notable outreach activities included the 50th Anniversary of John Glenn’s Mercury Flight, the Transit of Venus phenomena, the Space Communications and Navigation Testbed launch and the Mars Curiosity Rover landing.

“This opportunity enabled me to work in an organization outside my normal duties as an astronaut. Here I focused on people, programs, events and the management of a diverse team consisting of a lot of moving parts coming together

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C-2011-4686

Photo by Bridget Caswell

*Johnson with local students at the Student Sustainability Conference held at Glenn in October.*



## Johnson Spread NASA Message Wide

Continued from page 4

for a successful outcome,” Johnson explained. “I was amazed at the diligence of the team members, who worked through constraints and obstacles, and came through with flying colors. Their passion truly inspired me.”

A significant portion of Johnson’s time was spent getting out into the local community and across Glenn’s six-state region, spreading the word about NASA and encouraging students to pursue careers in math and science. Through more than 120 appearances, he attended community events and air shows and gave presentations to schools and civic organizations—signing thousands of autographs and inspiring others along the way.

“It was a lot of work, but a lot of fun,” he affirmed. “The mission of outreach and education is very fulfilling.”

Johnson returned to NASA Johnson Space Center in Houston on Nov. 16 to resume astronaut training in support of NASA’s future endeavors, but his impact while at Glenn will be felt by many for years to come.

—By Doreen B. Zudell



C-2012-245

Photo by Michelle Murphy

*Johnson shared personal reflections during the center's Day of Remembrance on Jan. 26. The event honored fallen heroes of NASA missions.*

## News and Events



C-2012-5470

Photo by Michelle Murphy

### ◀ Call to Service

During Glenn’s Veterans Day Ceremony, Nov. 8, Mentor native Captain Jose M. Rivera spoke of his “call to service” inspired by his 5th grade teacher and later made urgent by the events of 9–11. He outlined his experiences as a cadet at West Point Academy to becoming a troop executive officer in Baghdad during Operation Iraqi Freedom V. Glenn’s Veterans Awareness Committee sponsored the event that included several patriotic selections. Director of Space Flight Systems Bryan Smith provided opening remarks and personal reflections.

### Focus on Innovation ▶

Members of Glenn’s Creativity & Innovation Team held an informative “Out of the Box” event on Nov. 16. The C&I Team introduced the Glenn community to a variety of resources now available at the center to enhance creativity and innovation using modern methods. Pictured, left, are C&I Team members Stephanie Hirt and Sarah Tedder. Visit [ci.grc.nasa.gov](http://ci.grc.nasa.gov) to learn more about creative decision-making methods or scheduling a problem-solving event.



C-2012-5320

Photo by Marvin Smith



C-2012-5474

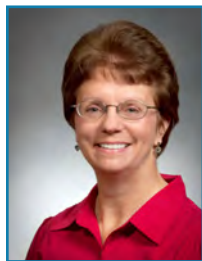
Photo by Michelle Murphy

### ◀ Baskets + Costumes = CFC Donations

Glenn employees showed their support and showed off their Halloween costumes during the annual Combined Federal Campaign (CFC) Basket Raffle. This year’s event offered 50 baskets that generated \$9,600. The 2012 CFC ends Dec. 15.

## Retirements

Karen Edwards, Verification and Operations Branch, Systems Engineering and Analysis Division, retired on Nov. 29, 2012, with 33 years of NASA experience.



Edwards

Sherryll Mallinak, Fluid Physics and Transport Branch, Space Processes and Experiments Division, retired on Nov. 30, 2012, with 24 1/2 years of NASA service.

## In Appreciation

During a time like this we realize how much family and friends really mean to us. Your expressions of sympathy will always be remembered. Thank you!

—The Family of Carl Costanzo

A great big thanks to everyone who made my retirement such a success. Working at NASA was a dream come true and I am grateful for 33 years of wonderful memories and terrific friends and co-workers! Best wishes to all!"

—Karen Edwards

## Calendar

**IFPTE LOCAL 28, LESA MEETING:** LESA will hold its next membership meeting on Wednesday, Jan. 9 at noon in the Employee Center's Small Dining Room.

### Exchange Holiday Sale Now – Dec. 31

**20 % off** - All clothing items, glassware, Fisher space pens, mission patches and pins, toys, NASA logo golf balls and towels, duffle bags and laptop bags, and much more

**10 % off** - Children's watches and NASA freeze-dried ice cream

**Come in and see the new arrivals!**

**Exchange Online Gift Shop**  
<http://www.nasagiftshop.com>

## Awards, Honors and Promotions

### DellaCorte Appointed Senior Technologist

Dr. Christopher DellaCorte has been appointed Senior Technologist (ST) of Tribology and Rotating Machinery in the Structures and Materials Division. DellaCorte becomes one of 10 distinguished STs, recognized as the center's most accomplished scientists and engineers whose career contributions promote and advance a technology that is extremely valuable to NASA Glenn in meeting its commitments to the agency.



Dr. DellaCorte

Recognized internationally as a discipline expert and authority in high-temperature and extreme-condition tribology, DellaCorte is dedicated to developing capabilities in tribology and rotating machinery. Nearly 20 years ago, as a senior researcher, he originated the concept for "Oil-Free Turbomachinery." He leads a multi-organizational team researching foil gas bearings, rolling element bearings, lubricants and tribology technology for NASA aeronautics and space efforts.

DellaCorte has earned a variety of prestigious awards and recognition for technical achievement and he holds advanced degrees from Case Western Reserve University. He is a fellow in the Society of Tribologists and Lubrication Engineers and the American Society of Mechanical Engineers.

### Sefcik's Outstanding Leadership Rewarded

Bob Sefcik, a member of Glenn's Cost Economic & Analysis Office, received the 2012 NASA Cost Estimating Leadership Award presented during the NASA Cost Symposium in Laurel, MD. The award recognizes an individual who has brought leadership and inspiration to the space cost community in activities such as championing a cause, leading and mentoring others in the space cost community and garnering the respect of his/her cost peers. Earlier this year, Sefcik received the agency's Outstanding Leadership Medal for outstanding leadership and innovation in NASA's cost estimating and analyses community on multiple projects and initiatives.



Sefcik

## PBRF Decommissioning Completed

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community members in Erie and Lorain counties." (See *AeroSpace Frontiers*, Nov. 2011, p. 1, for more about the group.)

Today, the PBRF Decommissioning Project is recognized as a model risk management project that met its goals in the most cost-effective manner as possible, while still ensuring a safe and regulatory compliant work environment.

As a testament of these efforts, NASA's Environmental Management Division, NASA Office of Strategic Infrastructure, presented Peacock with a 2012 Blue Marble Award for his "outstanding leadership and management of the

decommissioning of the Plum Brook Reactor." This prestigious award recognizes excellence demonstrated in environmental and energy management in support of NASA's mission.

*Editor's Note:* Learn more about the people and events during reactor operations from these books in the NASA History series: "NASA's Nuclear Frontier: the Plum Brook Reactor Facility," by Mark D. Bowles and Robert Arrighi, <http://www.history.nasa.gov/SP-4533/Plum%20Brook%20Complete.pdf> or "Science in Flux: NASA's Nuclear Program at Plum Brook, 1955-2005 by Dr. Mark D. Bowles, <http://www.history.nasa.gov/sp4317.pdf>.

—By S. Jenise Veris



## In Memory



Fails

**Robert E. Fails**, 63, who retired in 2006 with 28 years of federal service, died Oct. 26. As the former Glenn Associate Director (2003-2006), Fails was widely respected for his extensive knowledge and experience with accounting systems and innovative management processes. He joined NASA in 1978 from the Defense Contract Audit Agency, where he served as an auditor. During his tenure at Glenn, Fails provided guidance and stability to the Office of the Chief Financial Officer (1995-2003) and to the center management team. Fails' counsel and advice earned him recognition and awards, including NASA's Exceptional Service Medal (1994) and the prestigious Presidential Rank Award of Meritorious Executive (2000) for his significant role in decentralizing the center's budget management process. He also served as chairman of NASA's Employees Benefit Association for 12 years.

**Boyd M. Bane**, 79, who retired in 1988 with 30 years of federal service, died Nov. 3. Bane was a member of the Procurement Division throughout his 20-year NASA career. He initially worked in the Purchasing Section, but retired from the Materials Structures and Grants Section, where he served as the Grants Officer/COTR responsible for annually monitoring hundreds of active

college and university grants and cooperative agreements, as well as many of the unsolicited proposals for grants supporting a broad range of Lewis research and development projects. Bane was lauded for his expertise to effectively coordinate the complementary efforts of all participants as a team member of several high-profile programs/projects, including the Conservation of Strategic Aerospace Materials Program (1984), the Space Shuttle Main Engine program (1984) and the Phosphoric Acid Fuel Cell Project (1987).



Costanzo

**Carl P. Costanzo**, 77, who retired in 1990 with 34 years of NASA service, died Oct. 1. Costanzo began his NASA career in the apprentice program and graduated in 1961 as an instrument mechanic. He was a member of the Test Installation Division (TID) specializing in installing, troubleshooting and repairing instrumentation, automation and control systems for flight research, space power services and communications in various laboratories across the center. Costanzo was recognized for outstanding contributions as a member of the High-Pressure Facility Programmable Logic Controllers Team in 1980 before supporting a series of high-profile space flight experiments, including flight units for the Solid Surface Combustion Experiment and the Surface Tension Driven Convection Experiment (STDCE). Costanzo also came out of retirement to lend his expertise to the tedious cabling for seven Space Acceleration Measurement (SAM) Systems.

**H. Virginia "Ginny" Miller**, 87, who retired in 1991 with 15 years of NASA service, died Oct. 6. Miller served as a personnel clerk in the Human Resources Management Division. Her efforts merited a Sustained Superior Performance Award (1987) and a NASA Group Achievement Award (1989) as a member of the Hiring Initiative Team.

**Joseph A. Mills**, 75, who retired in 1994 with 34 years of government service,



Mills

died Oct. 18. Mills spent most of his career as an environmental health technician in the Environmental Health Division. He was an active member of the Speakers Bureau and recipient of several group achievement awards, as well as a cost savings suggestion award. His daughter-in-law, Anne Mills, is Glenn's Records Manager and History Officer.

**Vincent J. Scullin**, 69, who retired in 2006 with 41 1/2 years of NASA

service, died Nov. 6. Scullin was a major mathematician and member of the highly diversified Experimental Data Software Branch, Computer Services Division. The branch provided production support to all the center's experimental test facilities in determining and recording data processing requirements, preparing necessary support programs and monitoring them for accuracy and validity. Over his career, Scullin collaborated on several technical reports and earned numerous service awards, including a Group Achievement Award as a member of the Lewis Data Processing System Design and Implementation Team.



Scullin

**Chester "Chet" A. Sipsock Jr.**, 68, who retired in 2004 with 38 years of federal service, died Nov. 4. Sipsock was the former director of NASA's Office of Inspector General at Glenn from 1990 to 2004. Prior to joining NASA, he served 23 with the U.S. Government Accountability Office as program manager at the Detroit Regional Office before transferring to the Cleveland Sub-office in 1980. Sipsock was an active member in the Association of Government Accountants.



Sipsock



### Article Submissions

News items and brief announcements for publication in the January issue is noon, Dec. 14.

Larger articles require at least one month notice.

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VOLUME 14 ISSUE 12 DECEMBER 2012

# Center Celebrates Diversity, Raises Awareness



C-2012-5541

Photo by Michelle Murphy

NASA Glenn's Office of Diversity and Equal Opportunity recently co-sponsored several awareness events to acknowledge and celebrate the rich and diverse cultures, traditions and histories of its workforce.

Celebration highlights: **1** Cam Hill and members of the Haudenosaunee Nation perform the Smoke Dance during the Native American Observance, hosted by Glenn's Advisory Group for Native Americans. **2** Associate Director Janet Watkins talks with Randy Schmidt, Vietnam War veteran, after his keynote address for the Disability Awareness Event, sponsored by the Disability Awareness



Photo by Tom Hinshaw

Advisory Group. **3** The Office of Diversity and Equal Opportunity featured various fair trade vendors and presentations during the 4th annual Diversity Day. **4** CFC Chairperson Anne Mills serves a variety of food items, prepared and donated by employees, during the 2nd annual CFC International Food Fair. Held in conjunction with Diversity Day, the event raised \$900 for local charities. **5** Glenn's CFC Loaned Executive Officer Robert Draper presents Janice Gassaway with the Top Chef award for her "Chicarrones de Pollo" (Dominican fried chicken) as part of the food fair.



Photo by Doreen B. Zudell



C-2012-5297

Photo by Bridget Caswell



Photo by Nikki Brown